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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,326	02/06/2004	Takuji Nomura	81846.0035	8530
26021	7590	06/27/2005		
HOGAN & HARTSON L.L.P. 500 S. GRAND AVENUE SUITE 1900 LOS ANGELES, CA 90071-2611			EXAMINER	DIAMOND, ALAN D
			ART UNIT	PAPER NUMBER
			1753	

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/774,326	NOMURA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Alan Diamond	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 14 April 2005.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,4-7 and 11-17 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,4-7 and 11-17 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 14 April 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1)  Notice of References Cited (PTO-892)  
 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4)  Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5)  Notice of Informal Patent Application (PTO-152)  
 6)  Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Comments***

1. The objection to the drawings has been overcome by Applicant's submission of the replacement sheet filed April 14, 2005.
2. The 35 USC 112, second paragraph, rejection of claims 4, 5, 8, 10-16, 18, and 19 has been overcome by Applicant's amendment or cancellation of the claims.

### ***Suggested Claim Language***

3. In order to be consistent with the changes set forth in claim 5, at line 3, with the respect to the recital of "the adjacent solar cell module", it is suggested that the term "the tile" at line 3 of claim 5 be changed to "the adjacent tile".

### ***Claim Objections***

4. Claim 15 is objected to because of the following informalities: In claim 15, at line 2, the word "which" should be inserted after "strips". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 1, 4-6, and 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is now indefinite because the term "the adjacent tile" at line 13 lacks positive antecedent support in claim 1 itself. The same applies to dependent claims 4-6. It is suggested that said term in claim 1 be changed to "an adjacent tile".

Claim 1 is now indefinite because the term "the adjacent solar module" at line 14 lacks positive antecedent support in claim 1 itself. The same applies to dependent claims 4-6. It is suggested that said term in claim 1 be changed to "an adjacent solar module".

Claim 5 is now indefinite because it is not clear which lower surface is being referred to by the term "a lower surface of said base member of the projecting part" at line 2. It is suggested that said term be changed to "a lower surface of the projecting part of said base member".

Claim 13 is now indefinite because "the lower portion" at each of lines 7 and 9 lacks positive antecedent support in claim 13 itself. The same applies to dependent claims 14-16.

Claim 14 is now indefinite because the term "the fastening strips which prevent a solar cell module from being blown off" at lines 2-3 lacks positive antecedent support in claim 13. It is suggested that said term be changed to "the fastening strips which prevent solar cell modules from being blown off".

Claim 15 is now indefinite because the term "the fastening strips prevent a solar cell module from being blown off" at lines 2-3 lacks positive antecedent support in claim 14. It is suggested that said term be changed to "the fastening strips which prevent solar cell modules from being blown off".

Claim 16 is now indefinite because it is not clear which solar cell module in parent claim 13 is being referred to by the term "a solar cell module" at line 2 of said claim 16. It is suggested that said term be changed to "the solar cell module".

Claim 16 is also now indefinite because the term "the fastening strips which prevent a solar cell module from being blown off" at lines 3-4 lacks positive antecedent support in claim 13. It is suggested that said term be changed to "the fastening strips which prevent solar cell modules from being blown off".

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2000-226908, herein referred to as JP '908.

With respect to claim 13, JP '908 teaches solar cell module tiles (1) that have already been laid on a roof (see Figure 6). Then, additional solar cell module tiles (1) are laid on the roof such that the eaves side of a solar cell module tile (1) to be laid is fastened to an upper portion of the ridge side of a solar cell module tile (1) that has already been laid (see Figures 6 and 8). As seen in Figure 1, the solar cell module (4) of a given solar cell module tile (1) is fastened to the eaves side of the solar cell module tile (1) with fastening strips (8) (see also Figures 4 and 8). Said fastening strips (8) on the eaves side of the tile (1) are also fastened to the peripheral section (5) of tile body (2), which is in turn fastened to the ridge side of the tile (1) that has already been laid (see Figures 6 and 8). Thus, said fastening strips (8), which read on the instant fastening strips, fasten the eaves side of a solar cell module (2) of a tile (1) to the ridge side of a

tile (1) that has already been laid. Fastening strips (8) prevent solar cell modules (4) from being blow off (see paragraph 0045). As seen in Figure 8, the fastening strip of an upper solar cell module tile (1) is between a lower portion of the eaves side of said upper solar cell module tile (1) and the upper portion of the ridge side of the adjacent lower solar cell module tile (1). Said fastening strip (8) of the upper solar cell module tile (1) clearly engages lower portion of the eaves side of said upper solar cell module tile (1) and engages the upper portion of said adjacent lower solar cell module tile (1), albeit indirectly by way of the peripheral section (5) of the upper solar cell module tile (1).

With respect to claim 14, the fastening strips (8) of the solar cell module tile (1) to be laid is clearly engaged (by way of said peripheral section (5)) with the ridge side of the tile below it (see Figures 6 and 8). Said fastening strips (8) are coupled to the eaves side of a module (4) which is part of a tile (1) that is laid on the upper edges of the tile below (see Figures 6 and 8).

With respect to claim 15, the fasteners (8) have a height-adjusting screw (32, 32A) which clearly has a tip abutting on an upper surface of the solar cell module tile (1) (see Figures 10 and 13). As noted above, the engaging part is the tile body (2). However, since the fasteners (8) penetrate the tile body (2) from above, they determine the height at the eaves side. In particular, in Figure 8, if the screw holding in the fastener (8) is very tight, then the height at the eaves side as measured from the top of fastener (8) will be lower than compared to the situation where the screw is not screwed as tightly.

With respect to claim 16, each solar cell module (4) clearly has a width that is an integral multiple with the width of each tile so that each solar cell module (4) can fit in a tile body (2) (see Figures 1, 2, and 6). As seen in Figure 6, the fastening strips (8) are arranged at regular intervals in the widthwise direction.

With respect to claim 17, the fastening strips (9), which also prevent the solar cell modules (4) from being blown off, are at the ridge sides to the tiles (1) (see Figures 6 and 8). The fastening strips (9) are fastened to the ridge-side peripheral edge of the tile body (2), which in turn is coupled to the eaves side of the tile to be laid (see Figures 6 and 8). Thus, said fastening strips (9) couple the ridge side of a solar cell module (4) to the eaves side of a solar cell module tile to be laid. The fastening strips (9) have a securing part, i.e., the vertical part that projects into peripheral section (5) which in turn is secured to the roof via nail (12b) and a horizontal part that clearly engages and is coupled to the lower portion of the eaves side of and adjacent upper solar cell module tile (1) (see Figure 8).

Since JP '908 teaches the limitations of the instant claims, the reference is deemed to be anticipatory.

9. Claims 7, 11, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11-200561, herein referred to as JP '561.

With respect to claim 7, JP '561 teaches the laying of solar cell modules together with tiles (B) on the roof of a building (see Figure 10). It is the Examiner's position that photovoltaic cell (2) plus frame sections (1A, 1B, 1D) read on an instant solar cell module (see JP '561's Figure 1). Then, as seen in Figure 10, there is a frame member

(1C) between each solar cell module, as well as between the lower-most solar module and the tile (B) at the bottom of Figure 10. The modules and tiles in said Figure 10 are laid adjacent in the gradient of the roof. Said frame member (1C) is made from aluminum, and aluminum certainly is waterproof (see paragraph 0010). The frame members (1C) read on the instant waterproof members. As seen schematically in Figure 10, said frame members (1C) have substantially the same height as the height of the tiles (B). As clearly seen in JP '561's Figure 10, the frame members (1C) have a width narrower the tiles (B).

With respect to claim 11, and as seen in Figure 2, the section (1C) has a trough near reference sign (12C). This trough section has the waterproof seal (4) (see Figure 2) and thus, renders waterproof a junction between each the solar cell module and the tile (see also Figure 10).

With respect to claim 12, the frame members (1D) clearly overlaps one side of a solar cell module at fame section (1C) (see Figure 10).

Since JP '561 teaches the limitations of the instant claims, the reference is deemed to be anticipatory.

#### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1, 4, 5, 7, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-200561, herein referred to as JP '561, in view of Ouchida et al, U.S. Patent 6,525,264.

With respect to claims 1 and 4, JP '561 teaches a solar cell module comprising photovoltaic cell (2); and a rectangular frame that encompasses the instant base member and comprises a ridge-side surface at section (1D) which projects downward at part (13D); an eaves-side surface at section (1C); a trough-side surface at section (13A) and an anti-trough-side surface at section(13B) (see Figures 1, 2, and 3). The trough-side surface at section (13A) has a protecting part (12A, 14A, 15A), extending along the ridge-side to the eaves-side of the roof and configured to overlap the trough section of an adjacent solar cell module (see Figures 3 and 7). Likewise, the anti-trough-side surface at section (13B) has a protecting part (12B, 14B), extending along the ridge-side to the eaves-side of the roof and configured to overlap the trough section of an adjacent solar cell module (see Figures 3 and 7). Note that a solar cell module is a tile and thus, an adjacent solar cell module is also an adjacent tile.

With respect to claim 5, a lower surface of, for example, the projecting part (12B) of the anti-trough-side contacts an upper edge of a rising wall (11A) of section (13A) which defines the trough section of the adjacent tile or module to seal a gap (see Figure 11).

With respect to claim 7, JP '561 teaches the laying of solar cell modules together with tiles (B) on the roof of a building (see Figure 10). It is the Examiner's position that, with respect to claim 7, the photovoltaic cell (2) plus frame sections (1A, 1B, 1D) read

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on an instant solar cell module (see JP '561's Figure 1). Then, as seen in Figure 10, there is a frame member (1C) between each solar cell module, as well as between the lower-most solar module and the tile (B) at the bottom of Figure 10. The modules and tiles in said Figure 10 are laid adjacent in the gradient of the roof. Said frame member (1C) is made from aluminum, and aluminum certainly is waterproof (see paragraph 0010). The frame members (1C) read on the instant waterproof members. As seen schematically in Figure 10, said frame members (1C) have substantially the same height as the height of the tiles (B). As clearly seen in JP '561's Figure 10, the frame members (1C) have a width narrower the tiles (B).

With respect to claim 11, and as seen in Figure 2, the section (1C) has a trough near reference sign (12C). This trough section has the waterproof seal (4) (see Figure 2) and thus, renders waterproof a junction between each the solar cell module and the tile (see also Figure 10).

With respect to claim 12, the frame members (1D) clearly overlaps one side of a solar cell module at fame section (1C) (see Figure 10).

JP '561 teaches the limitations of the instant claims other than the difference which is discussed below.

JP '561 does not specifically teach the structure of its photovoltaic cell (2), and, as such, does not specifically teach the base member and support member recited in instant independent claim 1.

Ouchida et al teaches a photovoltaic cell comprising semiconductor layer (402), a sealing resin film (403), and a thermal insulation layer (404) (see Figure 12; and col. 18,

lines 23-44). The sealing resin film along with frame (405) is a rectangular base member. The thermal insulation layer (404) corresponds to the instant insulating support member (see col. 18, lines 34-44). Ouchida et al's photovoltaic cell structure provides the advantage of suppressing photo-degradation and providing large output (see co. 4, lines 16-19). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used Ouchida et al's photovoltaic cell structure for the photovoltaic cell of JP '561 because Ouchida et al's photovoltaic cell structure provides the advantage of suppressing photo-degradation and providing large output (see co. 4, lines 16-19).

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP '561 in view of Ouchida et al as applied to claims 1, 4, 5, 7, 11, and 12 above, and further in view of Nakazima et al, U.S. Patent 6,365,824.

JP '561 in view of Ouchida et al, as relied upon for the reasons recited above, teaches the limitations of claim 6, the difference being that JP '561 in view of Ouchida et al does not specifically teach the drainage grooves in claim 6. Nakazima et al teaches a solar battery module comprising a tile into which the solar battery (i.e., photovoltaic cell) (6) is inserted and having grooves (55) for water drainage extending from ridge to eaves sides of the tile (see Figures 5 and 6; col. 4, lines 16-23; and col. 6, lines 25-41). Nakazima et al's tile structure provides the advantage of protecting the connecting terminals of the module from rainwater (see col. 1, lines 45-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the tile of Nakazima et al below the insulation layer (404) of JP '561 in view of

Ouchida et al because Nakazima et al's tile structure provides the advantage of protecting the connecting terminals of the module from rainwater. As such, Nakazima et al's tile is then considered to be the instant insulating support member.

***Response to Arguments***

13. Applicant's arguments filed April 14, 2005 have been fully considered but they are not persuasive.

With respect to claim 1, Applicant argues that "the applied references do not disclose or suggest, 'a projecting part provided on the trough-side surface and the anti-trough-side surface of the base member, along the ridge-side to the eaves-side of the roof, and configured to overlap a trough-section of the adjacent tile or the trough section of the adjacent solar module,' as required by amended independent Claim 1." However, this argument is not deemed to be persuasive because JP '561's trough-side surface at section (13A) has a protecting part (12A, 14A, 15A), extending along the ridge-side to the eaves-side of the roof and configured to overlap the trough section of an adjacent solar cell module (see Figures 3 and 7). Likewise, the anti-trough-side surface at section (13B) has a protecting part (12B, 14B), extending along the ridge-side to the eaves-side of the roof and configured to overlap the trough section of an adjacent solar cell module (see Figures 3 and 7).

Applicant argues that "neither Yoshitaka [i.e., JP '561] nor Ouchida [et al] teach or suggest a projecting part that is formed integral with the insulating support member, wherein the projecting part is provided below the overlapping part of the base member and configured to overlap the trough section of the adjacent tile or the trough section of

the adjacent solar cell module". However, this argument is not deemed to be persuasive because, as noted in the preceding paragraph, JP '561's trough-side surface at section (13A) has a protecting part (12A, 14A, 15A), extending along the ridge-side to the eaves-side of the roof and configured to overlap the trough section of an adjacent solar cell module (see Figures 3 and 7). As seen in JP '561's Figure 11, there most certainly is overlapping with adjacent solar cell module tiles. JP '561 in view of Ouchida et al renders obvious the features in instant claim 1.

With respect to claim 7, Applicant argue that the applied references do not disclose or suggest "laying a waterproof member having approximately the same height as the tile and a width narrower than that of the tile between each solar cell module and one tile which are laid adjacent in the direction of gradient of the roof". However, this argument is not deemed to be persuasive because JP '561 teaches the laying of solar cell modules together with tiles (B) on the roof of a building (see Figure 10). It is the Examiner's position that, with respect to claim 7, the photovoltaic cell (2) plus frame sections (1A, 1B, 1D) read on an instant solar cell module (see JP '561's Figure 1). Then, as seen in Figure 10, there is a frame member (1C) between each solar cell module, as well as between the lower-most solar module and the tile (B) at the bottom of Figure 10. The modules and tiles in said Figure 10 are laid adjacent in the gradient of the roof. Said frame member (1C) is made from aluminum, and aluminum certainly is waterproof (see paragraph 0010). The frame members (1C) read on the instant waterproof members. As seen schematically in Figure 10, said frame members (1C)

have substantially the same height as the height of the tiles (B). As clearly seen in JP '561's Figure 10, the frame members (1C) have a width narrower the tiles (B).

Applicant argues that the frame members (1C) of JP '561 are formed as an integral part of the roof tile. However, this argument is not deemed to be persuasive because claim 7 is so broadly written that is encompasses the situation in JP '561 where the frame member (1C) is a waterproof member. There is no language in claim 7 which would exclude the situation in JP '561 where a part of a frame is the waterproof member and the other parts of the frame along with the photovoltaic cell is the solar cell module.

Applicant argues that only the solar cell module includes a solar cell and cites Figures 5A, 7 and 8, and page 16, line 18 to page 17, line 19 of the instant specification. However, this argument is not deemed to be persuasive because nowhere does not instant specification teach or require that only solar cell modules include a solar cell. A "tile" most certainly can have a solar cell.

With respect to claims 13 and 17, Applicant argues that "the applied references do not disclose or suggest, 'arranging fastening strips which prevent solar cell modules from being blown off between the lower portion of the eaves-side of the solar cell module and the upper portion of the ridge-side of said tile'". However, this argument is not deemed to be persuasive because as seen in JP '908's Figure 1, the solar cell module (4) of a given solar cell module tile (1) is fastened to the eaves-side of the solar cell module tile (1) with fastening strips (8) (see also Figures 4 and 8). Said fastening strips (8) on the eaves-side of the tile (1) are also fastened to the peripheral section (5)

of tile body (2), which is in turn fastened to the ridge-side of the tile (1) that has already been laid (see Figures 6 and 8). Thus, said fastening strips (8), which read on the instant fastening strips, fasten the eaves-side of a solar cell module (2) of a tile (1) to the ridge-side of a tile (1) that has already been laid. Fastening strips (8) prevent solar cell modules (4) from being blown off (see paragraph 0045). As seen in Figure 8, the fastening strip of an upper solar cell module tile (1) is between a lower portion of the eaves-side of said upper solar cell module tile (1) and the upper portion of the ridge-side of the adjacent lower solar cell module tile (1). Said fastening strip (8) of the upper solar cell module tile (1) clearly engages lower portion of the eaves-side of said upper solar cell module tile (1) and engages the upper portion of said adjacent lower solar cell module tile (1), albeit indirectly by way of the peripheral section (5) of the upper solar cell module tile (1).

Applicant argues that JP '908 secures the solar cell (4) directly to the solar tile (1) with the fastening strips (8) without a buffer member interposed therebetween, whereas the instant invention discloses one or more gaskets 54 mounted on the ridge-side and eaves-side edges of the solar cell. Applicant also argues that the instant fastening strips are provided in hidden positions of the lower portion of the eaves-side of the solar cell module and the upper portion of the ridge-side of the tile. However, this argument is not deemed to be persuasive because instant claims 13 and 17 are silent concerning said gasket and said hidden portions.

***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Diamond whose telephone number is 571-272-1338. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alan Diamond  
Primary Examiner  
Art Unit 1753

Alan Diamond  
June 22, 2005

A handwritten signature in black ink, appearing to read "Alan Diamond".